UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

		Application No.	Applicant(s)
Office Action Summary		10/734,735	FILDEBRANDT ET AL.
		Examiner	Art Unit
		Jay A. Morrison	2168

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 August 2007*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Remarks

1.   Claims 1-21 are pending.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Liston et al. ('Liston' hereinafter) (Publication Number 20050065951) in view of Ng et al.

('Ng' hereinafter) (Patent Number 6,360,223) and further in view of Sherba et al.

('Sherba' hereinafter) ("A Framework for Mapping Traceability Relationships," by

Susanne A. Sherba, Kenneth M. Anderson, and Maha Faisal, In Proceedings of the

Second International Workshop on Traceability in Emerging Forms of Software

Engineering (TEFSE'03), Montreal, Quebec, Canada, October 7, 2003).

As per claim 1, Liston teaches

"A computer program product tangibly embodied in a computer-readable storage medium, comprising instructions operable to cause data processing apparatus to:" (see abstract and background)

"each controller having at least one associated data structure of data elements, each data structure being associated with exactly one controller, and one or more data mappings, each data mapping specifying a data source for a data element, each data mapping being a context mapping or a model mapping, each context mapping binding the data element to another data element, each model mapping specifying a model and a supply function, the supply function being operable to derive a value of the data element from the model" (model-view-controller, paragraph [0009]);

"derive one or more data dependency relationships from the data mappings" (paragraph [0009] and [0042]);

Liston does not explicitly indicate "and visualize the data dependency relationships by displaying a link for each of one or more data dependency relationships, each link showing a direction of data dependency".

However, Ng discloses "and visualize the data dependency relationships by displaying a link for each of one or more data dependency relationships, each link showing a direction of data dependency" (column 9, lines 37-57).

It would have been obvious to one of ordinary skill in the art to combine Liston and Ng because using the steps of "and visualize the data dependency relationships by displaying a link for each of one or more data dependency relationships, each link showing a direction of data dependency" would have given those skilled in the art the

tools to improve the invention by having views of the mappings. This gives the user the advantage of being able to visualize the relationships that exist.

Neither <u>Liston</u> nor <u>Ng</u> explicitly indicate "receive a specification of two or more controllers" or "each data dependency relationship being directed from a first controller to a second controller and from the second controller to one model, one data dependency relationship being derived whenever there is at least one data mapping between the first controller and the second controller and between the second controller and the model".

However, <u>Sherba</u> discloses "receive a specification of two or more controllers" (modules, section 2.3, sixth paragraph) and "each data dependency relationship being directed from a first controller to a second controller and from the second controller to one model, one data dependency relationship being derived whenever there is at least one data mapping between the first controller and the second controller and between the second controller and the model" (implicit relationships, section 1, fourth paragraph and section 2.3, ninth paragraph; Figure 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine <u>Liston</u>, <u>Ng</u>, and <u>Sherba</u> because using the steps of "receive a specification of two or more controllers" or "each data dependency relationship being directed from a first controller to a second controller and from the second controller to one model, one data dependency relationship being derived whenever there is at least one data mapping between the first controller and the second controller and between the second controller and the model" would have given those

skilled in the art the tools to improve the invention by using relationship tools to derive

relationships. This gives the user the advantage of having tools to create such models.

As per claim 2, <u>Liston</u> teaches

"the data structure is a tree" (paragraph [0052]).

As per claim 3, <u>Liston</u> teaches

"the instructions to receive a specification comprise instructions to receive a

specification of a component encapsulating the controllers and including the mappings,

and wherein the controllers comprise at least one interface controller and at least one

view controller" (paragraph [0009] and [0042]).

As per claim 4, <u>Liston</u> teaches

"the controllers further comprise a configuration controller, a component

controller, or a custom controller" (paragraph [0009] and [0042]).

As per claim 5,

<u>Liston</u> does not explicitly indicate "receive user input editing a first link; and

modify the data dependency relationship specified by the first link in accordance with

the user input, the data dependency relationship being modified by modifying the data

mappings, wherein the modified data mappings correspond to the user input".

However, Ng discloses "receive user input editing a first link; and modify the data dependency relationship specified by the first link in accordance with the user input, the data dependency relationship being modified by modifying the data mappings, wherein the modified data mappings correspond to the user input" (column 9, lines 37-57).

It would have been obvious to one of ordinary skill in the art to combine Liston and Ng because using the steps of "receive user input editing a first link; and modify the data dependency relationship specified by the first link in accordance with the user input, the data dependency relationship being modified by modifying the data mappings, wherein the modified data mappings correspond to the user input" would have given those skilled in the art the tools to improve the invention by having views of the mappings. This gives the user the advantage of being able to visualize the relationships that exist.

As per claim 6, Liston teaches

"the first and second data source each being one of the controllers or models" (paragraph [0009]).

Liston does not explicitly indicate "the first link has a source end, the source end specifying the source of data for the data dependency relationship, and the instructions to receive the user input comprise instructions to: receive user input moving the source end of the first link from a first data source to a second data source".

However, Ng discloses "the first link has a source end, the source end specifying the source of data for the data dependency relationship, and the instructions to receive

the user input comprise instructions to: receive user input moving the source end of the first link from a first data source to a second data source" (column 9, lines 37-57).

It would have been obvious to one of ordinary skill in the art to combine <u>Liston</u> and <u>Ng</u> because using the steps of "the first link has a source end, the source end specifying the source of data for the data dependency relationship, and the instructions to receive the user input comprise instructions to: receive user input moving the source end of the first link from a first data source to a second data source" would have given those skilled in the art the tools to improve the invention by having views of the mappings. This gives the user the advantage of being able to visualize the relationships that exist.

As per claim 7,

<u>Liston</u> does not explicitly indicate "the instructions to receive the user input cause the data processing equipment to: receive user input changing the direction of the data dependency relationship for the first link".

However, <u>Ng</u> discloses "the instructions to receive the user input cause the data processing equipment to: receive user input changing the direction of the data dependency relationship for the first link" (column 9, lines 37-57).

It would have been obvious to one of ordinary skill in the art to combine <u>Liston</u> and <u>Ng</u> because using the steps of "the instructions to receive the user input cause the data processing equipment to: receive user input changing the direction of the data dependency relationship for the first link" would have given those skilled in the art the

tools to improve the invention by having views of the mappings. This gives the user the advantage of being able to visualize the relationships that exist.

As per claim 8, Liston teaches

"receive user input requesting a display of a detail view of a second link, the second link having a source and a destination" (enter input fields, paragraph [0152]);

"and respond to the user input by displaying all the data mappings that have the same source and destination as the second link" (finds relationset, paragraph [0132]).

As per claim 9, Liston teaches

"receive user input to filter the displayed links using a filter" (enter input fields, paragraph [0152]);

"and display only data dependency relationships satisfying the filter" (finds relationset, paragraph [0132]).

As per claim 10, Liston teaches

"the filter specifies all data dependency relationships having selected models or controllers as the source" (finds relationset, paragraph [0132]).

As per claim 11, Liston teaches

"the filter specifies all data dependency relationships having a selected controller as the source or the destination, or having a selected model as the source" (finds relationset, paragraph [0132]).

As per claim 12, <u>Liston</u> teaches

"receive user input to filter the data mappings using a filter" (enter input fields, paragraph [0152]);

"derive one or more filtered data dependency relationships from the data mappings satisfying the filter" (finds relationset, paragraph [0132]);

"and visualize the filtered data dependency relationships" (visualize related data, paragraph [0055]).

As per claim 13, <u>Liston</u> teaches

"the filter specifies all data mappings having selected models or controllers as the data source" (finds relationset, paragraph [0132]).

As per claim 14, <u>Liston</u> teaches

"the filter specifies all data mappings having a selected controller or model as the data source, and all data mappings specifying a data source for the selected controller" (finds relationset, paragraph [0132]).

As per claim 15, <u>Liston</u> teaches

"A system comprising:" (see abstract and background)

"a processor" (paragraph [0012])

"each controller having at least one associated data structure of data elements,

each data structure being associated with exactly one controller, the component

including one or more data mappings, each data mapping specifying a data source for a

data element, each data mapping being a context mapping or a model mapping, each

context mapping binding the data element to another data element, each model

mapping specifying a model and a supply function, the supply function being operable

to derive a value of the data element from the model" (model-view-controller, paragraph

[0009]);

"means for deriving one or more data dependency relationships from the data

mappings" (model-view-controller, paragraph [0009] and [0042]);

Liston does not explicitly indicate "and means for visualizing the data

dependency relationships by displaying a link for each of one or more data dependency

relationships, each link showing a direction of data dependency".

However, Ng discloses "and means for visualizing the data dependency

relationships by displaying a link for each of one or more data dependency

relationships, each link showing a direction of data dependency" (column 9, lines 37-

57).

It would have been obvious to one of ordinary skill in the art to combine Liston

and Ng because using the steps of "and means for visualizing the data dependency

relationships by displaying a link for each of one or more data dependency

relationships, each link showing a direction of data dependency" would have given

those skilled in the art the tools to improve the invention by having views of the

mappings. This gives the user the advantage of being able to visualize the relationships

that exist.

Neither Liston nor Ng explicitly indicate "means, connected to the processor, for

receiving a specification of a component, wherein the component encapsulates two or

more controllers" or "each data dependency relationship being directed from a first

controller to a second controller and from the second controller to one model, one data

dependency relationship being derived whenever there is at least one data mapping

between the first controller and the second controller and between the second controller

and the model".

However, Sherba discloses "means, connected to the processor, for receiving a

specification of a component, wherein the component encapsulates two or more

controllers" (modules, section 2.3, sixth paragraph) and "each data dependency

relationship being directed from a first controller to a second controller and from the

second controller to one model, one data dependency relationship being derived

whenever there is at least one data mapping between the first controller and the second

controller and between the second controller and the model" (implicit relationships,

section 1, fourth paragraph and section 2.3, ninth paragraph; Figure 3).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine Liston, Ng, and Sherba because using the steps of

"means, connected to the processor, for receiving a specification of a component,

wherein the component encapsulates two or more controllers" or "each data

dependency relationship being directed from a first controller to a second controller and

from the second controller to one model, one data dependency relationship being

derived whenever there is at least one data mapping between the first controller and the

second controller and between the second controller and the model" would have given

those skilled in the art the tools to improve the invention by using relationship tools to

derive relationships. This gives the user the advantage of having tools to create such

models.

As per claim 16,

This claim is rejected on grounds corresponding to the arguments given above

for rejected claim 5 and is similarly rejected.

As per claim 17,

This claim is rejected on grounds corresponding to the arguments given above

for rejected claim 8 and is similarly rejected.

As per claim 18,

This claim is rejected on grounds corresponding to the arguments given above

for rejected claim 15 and is similarly rejected.

As per claim 19,

This claim is rejected on grounds corresponding to the arguments given above for rejected claim 5 and is similarly rejected.

As per claim 20,

This claim is rejected on grounds corresponding to the arguments given above for rejected claim 8 and is similarly rejected.

As per claim 21, <u>Liston</u> teaches

"A computer program product tangibly embodied in a computer-readable storage medium, comprising instructions operable to cause data processing apparatus to:" (see abstract and background)

"each controller having at least one associated data structure of data elements, each data structure being associated with exactly one controller, and one or more data mappings, each data mapping specifying a data source for a data element" (model-view-controller, paragraph [0009]);

<u>Liston</u> does not explicitly indicate "display a link for each of one or more data dependency relationships, each data dependency relationship being directed ... each link showing the direction of data dependency; receive user input editing a first link; and modify the data mappings represented by the data dependency relationship specified by the first link in accordance with the user input".

However, <u>Ng</u> disclose "display a link for each of one or more data dependency relationships, each data dependency relationship being directed ... each link showing

the direction of data dependency; receive user input editing a first link; and modify the

data mappings represented by the data dependency relationship specified by the first

link in accordance with the user input" (column 9, lines 37-57).

It would have been obvious to one of ordinary skill in the art to combine Liston

and Ng because using the steps of "display a link for each of one or more data

dependency relationships, each data dependency relationship being directed ... each

link showing the direction of data dependency; receive user input editing a first link; and

modify the data mappings represented by the data dependency relationship specified by

the first link in accordance with the user input" would have given those skilled in the art

the tools to improve the invention by having views of the mappings. This gives the user

the advantage of being able to visualize the relationships that exist.

Neither Liston nor Ng explicitly indicate "receive a specification of two or more

controllers" or "from a first controller to a second controller and from the second

controller to one model, each data dependency relationship indicating that there is at

least one data mapping between the first controller and the second controller and

between the second controller and the model and representing all the data mappings in

the same direction between the first controller and the second controller and between

the second controller and the model".

However, Sherba discloses "means, connected to the processor, for receiving a

specification of a component, wherein the component encapsulates two or more

controllers" (modules, section 2.3, sixth paragraph) and "from a first controller to a

second controller and from the second controller to one model, each data dependency

relationship indicating that there is at least one data mapping between the first controller

and the second controller and between the second controller and the model and

representing all the data mappings in the same direction between the first controller and

the second controller and between the second controller and the model" (implicit

relationships, section 1, fourth paragraph and section 2.3, ninth paragraph; Figure 3).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine Liston, Ng, and Sherba because using the steps of

"means, connected to the processor, for receiving a specification of a component,

wherein the component encapsulates two or more controllers" or "from a first controller

to a second controller and from the second controller to one model, each data

dependency relationship indicating that there is at least one data mapping between the

first controller and the second controller and between the second controller and the

model and representing all the data mappings in the same direction between the first

controller and the second controller and between the second controller and the model"

would have given those skilled in the art the tools to improve the invention by using

relationship tools to derive relationships. This gives the user the advantage of having

tools to create such models.

Response to Arguments

4.   Applicant's arguments with respect to claims 1-21 have been considered but are

moot in view of the new ground(s) of rejection.

Conclusion

5.   The prior art made of record, listed on form PTO-892, and not relied upon is

considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jay A. Morrison whose telephone number is (571) 272-

7112. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tim Vo can be reached on (571) 272-3642. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

TIM VO
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